(19) World Intellectual Property Organization

International Bureau

(43) International Publication Date 2 June 2005 (02.06.2005)

PCT

WO 2005/049546 A1

- (51) International Patent Classification7: C07C 211/59, 211/61, C07D 285/14, C08G 73/02, H01L 51/30
- (21) International Application Number:

PCT/US2004/036707

(22) International Filing Date:

3 November 2004 (03.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/520,070

14 November 2003 (14.11.2003) US

- (71) Applicant (for all designated States except US): DOW GLOBAL TECHNOLOGIES INC. [US/US]; Washington Street, 1790 Building, Midland, MI 48674 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): Michelle, L. [US/US]; 1199 Summerlyn Drive, Grand Blanc, MI 48439 (US). YU, Wanglin [CN/US]; 1608 Settlers Passage, Midland, MI 48642 (US). INBASEKARAN, Michael [US/US]; 2278 Cardinal Drive, Midland, MI 48642 (US). WU, Weishi [US/US]; 1608 Settlers Passage, Midland, MI 48642 (US). WELSH, Dean, M. [US/US]; 5606 Lantern Lane, Midland, MI 48642 (US). O'BRIEN, James, J. [US/US]; 5002 Highbridge Court, Midland, MI 48640 (US).

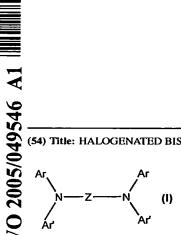
- (74) Agent: ZERULL, Susan, Moeller; The Dow Chemical Company, Intellectual Property, P.O. Box 1967, Midland, MI 48641-1967 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HALOGENATED BISDIARYLAMINOPOLYCYLIC AROMATIC COMPOUNDS AND POLYMERS THEREOF



(57) Abstract: A halogenated bisdiarylaminopolycyclic aromatic compound, polymers made therefrom, and polymeric light emitting diode devices using the polymers are described. The halogenated compound is represented by formula (I), wherein Ar and Ar' are each independently substituted or unsubstituted aryl groups and Z is a polycyclic arylene group, wherein at least one of the Ar' groups is a haloaryl group. Devices using polymers prepared from the halogenated compound exhibit improved performance and longer lifetime, presumably as a result

of the presence of the geometrically constrained diarylaminopolycyclic aromatic groups in the polymer backbone.